Unit 4.5
Counting Principles
Day 4

You are picking 7 sodas from a cooler that has 5 Cokes and 6 Diet Cokes.

11 sodas

a) How many combinations of 7 sodas can you choose?

$$_{11}C_7 = \frac{11!}{7!4!} = \frac{11 \cdot 10 \cdot 9 \cdot 8}{4 \cdot 3 \cdot 2 \cdot 1} = 330$$

b) How many combinations of sodas include 3 cokes and 4 Diet Cokes?

3 cokes and 4 diet

$_5C_3 \cdot {}_6C_4$

$10 \cdot 15 = 150$

c) How many combinations of 7 sodas include exactly 2 Cokes?

2 cokes and 5 diet

$_5C_2 \cdot {}_6C_5 = 10 \cdot 6 = 60$

d) How many combinations include at least 4 Diet cokes?

COUNTING THEORY MIXED REVIEW

If time do some of the homework together . . .

Homework
Day 4